

# 303 STAINLESS

## READILY MACHINABLE STAINLESS STEEL

### PRODUCT DESCRIPTION

Benefitting from being the most machinable of all austenitic stainless steels available today, **Type 303 stainless** steel's machinability is improved due to the presence of sulphur in the alloying process. However, the presence of sulphur slightly reduces the alloys overall toughness and results in a decrease in corrosion resistance. Used in a variety of engineering applications, Type 303, as with most austenitic grades, has excellent toughness though weldability is poor.

### KEY FEATURES

- Very good machinability but reduced formability
- Welding not recommended
- Lower corrosion resistance than 1.4301
- Excellent toughness

### APPLICATIONS

- Electrical switchgear components
- Aircraft components
- Gears, bushes, shafts, fastenings

### CHEMICAL COMPOSITION (weight %)

	C	Mn	Si	P	S	Cr	Ni	Fe
Min						17.00	8.00	Bal
Max	0.10	2.00	1.00	0.40	0.15	19.00	10.00	Bal

### MECHANICAL PROPERTIES

Tensile strength	500 - 700	MPa
Proof Stress	190 min	MPa
Elongation A5	35	%

### PHYSICAL PROPERTIES

Density	8.03	kg/m <sup>3</sup>
Melting Point	1455	°C
Modulus of Elasticity	193	GPa
Electrical Resistivity	0.072	x10 <sup>-6</sup> Ω.m
Thermal Conductivity	16.3	W/m.K
Thermal Expansion	17.3	x10 <sup>-6</sup> /K



### AVAILABILITY

Round bar, wire and hexagon

### CORROSION RESISTANCE

Good in mild environments

### WELDABILITY

Poor weldability